

Environmental

Compliance

at Petroleum, Oils and Lubricants Facilities



September 30, 2004

Introduction

- This discussion of environmental compliance will not be all inclusive.
- What is environmental compliance and why do we need to worry about it?





Introduction

- Who is responsible for environmental compliance at a typical DFSP?
 - Government Role
 - DESC/Service
 - Contractor Role
 - Personal Liability



Introduction

- How can we work environmental compliance into our everyday workload?

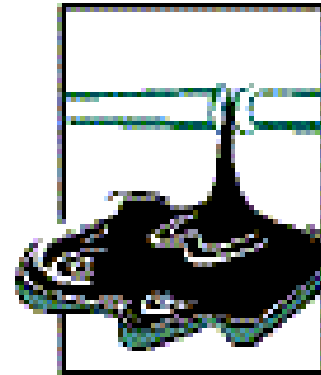


Incident and Spill Reporting

- Basic response actions to a spill:

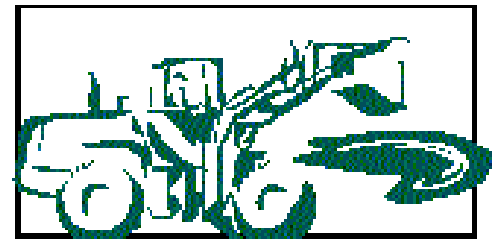


- Eliminate ignition sources
- Stop the flow
- Contain the spill



- Call for help
- Notify appropriate agencies

- Start immediate cleanup
- Submit Reports



Reportable Quantity

Varies. Reporting is required when reportable quantity is released into the environment in a 24-hour period. (CERCLA listed hazardous substances and CERCLA unlisted hazardous substances such as petroleum products that have not been mixed with a hazardous substance are exempt).

National Response Center

Immediately

CERCLA

40 CFR 302



1-800-424-8802



Incident and Spill Reporting

Regulated Material

Oil releases to navigable waters

Reportable Quantity

Release that either: a) causes a film/sheen/discoloration of surf or adjoining shorelines, or
b) violates applicable water quality standards

Receiving Authority

National Response Center

Reporting Deadline

Immediately

Federal ACT

CWA

Regulatory Reference

40 CFR 110.10



**National
Response
Center**

1-800-424-8802



Incident and Spill Reporting

Regulated Material

Reporting requirements for facilities with SPCC plans

Reportable Quantity

Reporting required when within 12 months:

- a) discharge of 1,000 gallons or more of oil into navigable water
- b) two spill events of 42 gallons each within 12 months.

Receiving Authority

EPA regulatory administration

Reporting Deadline

Written report within 60 days

Federal ACT

CWA

Regulatory Reference

40 CFR 112.4(a)



Incident and Spill Reporting

Regulated Material

Petroleum and hazardous substances (excluding hazardous waste) from UST systems

Reportable Quantity

Notification for:

- a) Confirmed UST system releases
- b) Suspected releases discovered by leak detection monitoring or unusual equipment operations
- c) Spills or overfills exceeding RQs
- d) Spills > RQs or <25 gallons petroleum not cleaned up in 24 hours

Receiving Authority

State UST authority (and possibly the Fire Marshall).

Reporting Deadline

Within 24 hours or time period specified by authorized State UST authority

Federal ACT

RCRA

Regulatory Reference

40 CFR 280, Subpart E



Incident and Spill Reporting

Regulated Material

Petroleum products in cross-country pipelines (outside facility boundary)

Reportable Quantity

Failure in pipeline system resulting in fire, explosion, release of 5 gallons, bodily harm, or damage exceeding \$50,000

Receiving Authority

National Response Center with written report (DOT Form 7000- to DOT Office of Pipeline Safety

Reporting Deadline

Immediately, written report within 30 days

Federal ACT

HLPSA

Regulatory Reference

49 CFR 195.50-54



Emergency Response Planning

- General Emergency Response Plan Requirements
 - Emergency Contact Information.
 - Initial Response Procedures.
 - Recovery Operations.
 - Incident Termination and follow-up actions.





Emergency Response Planning

Regulatory-Specific Response Plans

Fuel Storage Tanks	EPA Spill Prevention Control and Countermeasure Plan	40 CFR Part 112.7
Fuel Storage Tanks	EPA Non-Transportation Related Facility Response Plan	40 CFR Part 112.20
Marine Terminals	USCG Marine Transportation Related Facility Response Plan	33 CFR Part 154
On-Shore Pipelines	RSPA Response Plan	49 CFR Part 194
Oil Transportation	RSPA Response Plan	49 CFR Part 130

Emergency Response Planning

- Watch out for definitions.
- Remember to check with your state and local emergency planning agencies since they may also have specific requirements that differ from the federal requirements.
- Integrated Contingency Plan



RSPA

Pumphouse

**Maintenance
Building**

Admin Office



**USCG
MTR**

Pier



***Typical DESC
Defense Fuel
Support Point***

**Complex
Facility**

Fuel Tanks: Underground Storage Tanks

- Regulatory Background – RCRA:
 - Describe performance standards for USTs.
 - Prevent contamination of surrounding soil and groundwater by leaking USTs (LUSTs).
 - Describe how to properly close a UST.
 - Mandate requirements if and when a release occurs.
 - 40 CFR Part 280.





Fuel Tanks: Underground Storage

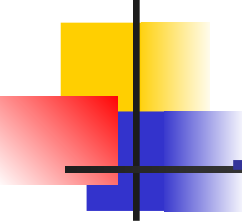
Tanks

- Definitions

UST ~ as defined in 40 CFR Part 280 is any tank containing regulated substances and petroleum that have 10% or more of their volume (including connected underground pipelines) below ground.

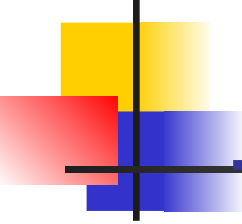
Regulated Substance ~ As defined by EPA, any CERCLA hazardous substance (except hazardous waste) and petroleum (including blends such as jet fuels and distillate fuel oils). The CERCLA list of hazardous substances can be found in 40 CFR Part 302.4

Non-Regulated UST ~ emergency spill or overflow containment USTs that are expeditiously emptied after use.



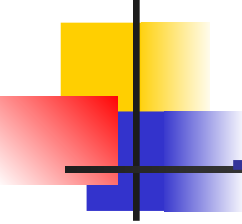
Fuel Tanks: Underground Storage Tanks

- Operation and Maintenance
 - Ensure continuous operation of corrosion protection system.
 - Have all cathodic protection systems tested within 6 months of installation/repair and every 3 years thereafter.
 - Inspect impressed current cathodic protection systems every 60 days.
 - Tightness-test repaired tanks within 30 days of repair.



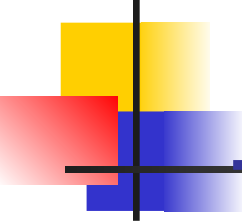
Fuel Tanks: Underground Storage Tanks

- UST leak detection is mandatory. Use one, or a combination, of the following monitoring methods monthly:
 - Vapor monitoring in surrounding soil
 - Interstitial monitoring
 - Automatic tank gauging
 - Collecting and analyzing groundwater samples
- Must use regulatory-approved methods



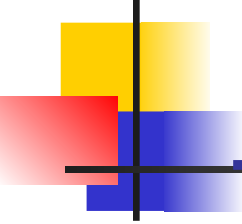
Fuel Tanks: Underground Storage Tanks

- Temporary Tank Closure:
 - 12 months or less
 - Continue corrosion protection.
 - Continue leak detection unless tank is empty.
 - Leave vent lines open and functioning.
 - Cap all other lines, pumps, manways, and ancillary equipment.



Fuel Tanks: Underground Storage Tanks

- Permanent Tank Closure:
 - Notify your regulatory agency 30 days prior.
 - Conduct site assessment.
 - Take corrective actions if necessary.
 - Use standard safety and disposal practices.
 - Remove tank or fill with inert material
 - Maintain closure report on file



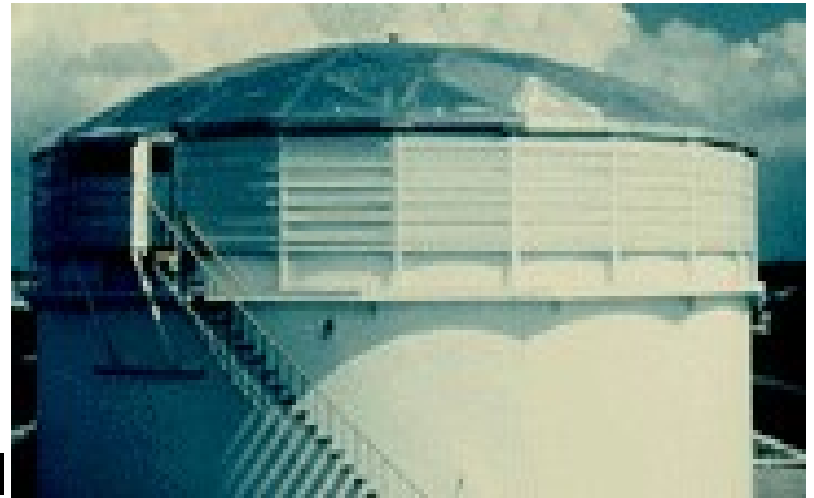
Fuel Tanks: Underground Storage Tanks

- Recordkeeping and Reporting
 - Notify regulators 30 days before bringing a UST into use if required
 - Report all suspected releases, spills, and overfills exceeding 25 gallons or that cause a sheen on surface water
 - Confirmed releases must be reported within 24 hours
 - Submit follow-up reports within 20 days
 - State and local requirements as applicable

Fuel Tanks: Aboveground Storage Tanks

- Bulk Storage Tank Requirements

- Constructed iaw API, NFPA & UL standards
- Visual inspection
- Integrity testing
 - Radiographic
 - Ultrasonic
 - Shell thickness
- Prompt repairs
- Spill prevention can incl pump cut-off devices, liquid level meters, relief valves or overflow lines



Fuel Tanks:

Aboveground Storage

Tanks

- Containment and Diversionary Structures:

- Dikes
- Ditches
- Berms
- Culverts
- Weirs



- Containment areas must be large enough to collect entire contents plus allowances for precipitation

Fuel Tanks: Leak Detection Technologies

- Secondary containment with interstitial monitoring
- Automatic tank gauging systems
- Vapor monitoring
- Groundwater monitoring



Fuel Tanks: Leak Detection Technologies

- Statistical inventory reconciliation
- Mass measurements
- Chemical markers or tracer compounds
- Differential pressure





Pipelines

- Install according to recognized codes of practice
- Protect piping from corrosion
- Equip piping with continuous leak detection
- Close piping according to regulations
- Report and record all releases





Underground Piping

- Operation & Maintenance Requirements:
 - Operate and maintain corrosion protection systems to continuously provide corrosion protection
 - Repair/replace iaw manufacturers specs
 - Conduct tightness testing on repaired piping within 30 days
 - Test the cathodic protection system within 6 months of repair

Underground Piping

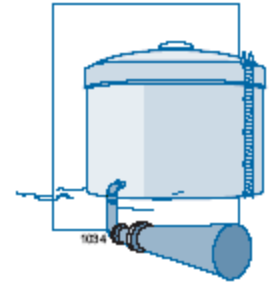
- Leak Detection in UST Piping:
 - Pressurized piping
 - Automatic line leak detectors
 - Annual line tightness test

or

 - Perform monthly soil vapor, groundwater or interstitial monitoring
- Suction piping
 - Triennial line tightness test

or

- Perform monthly soil vapor, groundwater or interstitial monitoring





Underground Piping

- Closure of UST Piping:

Temporary Closure ~ 12 months or less

- Continue corrosion protection
- Continue leak detection unless tank is empty
- Leave vent line open and functioning
- Cap all other lines to the tank

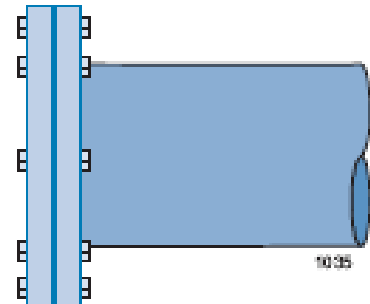
Permanent Closure ~ (Or change in service)

- Notify your regulatory agency 30 days prior
- Conduct site assessment
- Take corrective actions if necessary
- Use standard safety practices
- Maintain closure report on file



Pipelines

- SPCC Plan requirements associated with underground piping include:
 - Examine for corrosion damage and take corrective action
 - Tightness test annually or perform monthly monitoring
 - Post vehicle weight restrictions
 - Periodically ensure that the cathodic protection system is functioning



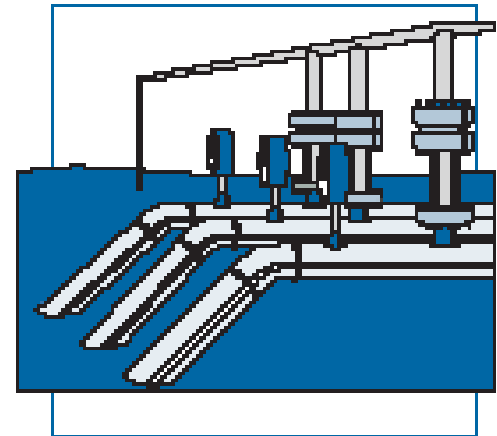


Pipelines

- SPCC Plan requirements associated with aboveground piping include:
 - Design pipe supports to prevent sagging, minimize corrosion, and allow for expansion and contraction.
 - Inspect all aboveground pipelines regularly. Check the conditions of the pipe supports, connecting joints, valves, gauges, pumps, and catch basins. They should be free of leaks, drips, and oil-stained soil underneath.
 - Replace and repair defective or leaking piping and equipment, and keep records of any repairs.

Pipelines

- SPCC Plan requirements associated with aboveground piping include:
 - Post warning signs to alert traffic of aboveground piping, or verbally warn drivers, as appropriate.
 - When lines are taken out of service for extended periods, cap or blind and mark the connection at the top





Transportation Pipeline Systems

- Pipeline Assessment and Integrity Evaluation Procedures program
 - Inspect and evaluate pipeline at all water crossings
 - Close interval survey of cathodic protection system
 - Caliper pig surveys
 - Ultrasonic or Magnaflux surveys
 - Compute internal design pressure based on actual wall thickness
 - Using the above info, pressure test



Hazardous Waste

A *hazardous waste* is a discarded solid, semi-solid, liquid, or contained gas that can be described as:

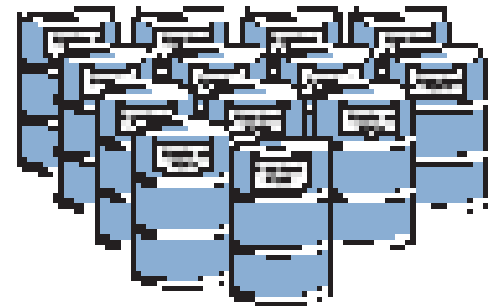
“Because of its quantity, concentration, or its physical, chemical or infectious characteristics, it poses a present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed or otherwise managed”.



Hazardous Waste

Examples that may be generated at DESC facilities:

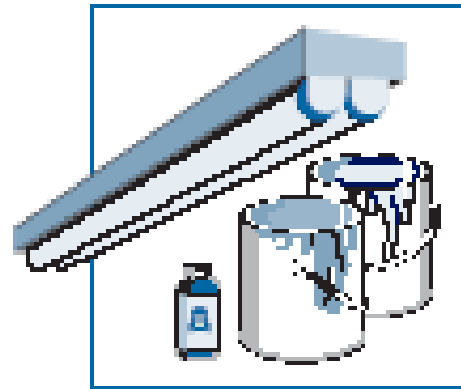
- Tank bottom sludge and wastewater
- Waste solvents/paints
- Sandblasting residue
- Expired chemicals
- Filter Elements



Hazardous Waste

Determining if a waste is hazardous:

- Step 1 - Check for exclusion from regulation under 40 CFR 261.4. If it is not go to step 3
- Step 2 - See if waste can be classified as a “universal waste”.
- Step 3 - See if waste is listed as HW in 40 CFR 261 Subpart D. If it is not go





Hazardous Waste

Determining if a waste is hazardous:

- Step 4 - Determine if the waste exhibits any of the characteristics identified in 40 CFR 261 Subpart C by either:
 - Testing material according to specific EPA methods, or
 - By using your knowledge of waste and how it was generated



Hazardous Waste

Hazardous Waste Characteristics

- Ignitability
 - EPA Hazardous Waste Number D001
- Corrosivity
 - EPA Hazardous Waste Number D002
- Reactivity
 - EPA Hazardous Waste Number D003
- Toxicity
 - EPA Hazardous Waste Number D004 thru D009





Hazardous Waste

Listed Hazardous Waste:

- F-listed -- commonly produced by various industrial processes and generated from non-specific sources
- K-listed -- generated from industry-specific manufacturing processes. Not typically generated at fuel terminals
- P-listed -- discarded or off-specification commercial chemical products and resulting residues from containers or spills
- U-listed -- also pure-grade discarded or off-specification commercial chemical products, residues, and spills



Hazardous Waste

Small Quantity Generator Requirements:

- EPA ID Number
- Accumulation of waste up to 180 days
 - Do not accumulate more than 6000 Kg onsite
 - Proper storage
 - Preparedness and prevention
 - Have an emergency coordinator
 - Post basic safety information near phone
 - Personnel training



Hazardous Waste

- Satellite Accumulation
 - Up to 55 gals HW
 - Suitable container clearly marked
- Inspections
 - Weekly
 - Containers
 - Emergency systems
 - Communication systems
 - Spill control supplies
 - Decontamination equipment
- Land Disposal Restrictions





Hazardous Waste

- Pre-Transport Requirements
 - Package all waste as specified in 49 CFR 173, 178 and 179
 - Label each container as specified in 49 CFR 172 Subpart E
 - Mark each package of hazardous waste as specified in 49 CFR 172 Subpart D
 - Mark the transport vehicle as specified in 49 CFR 172 Subpart F

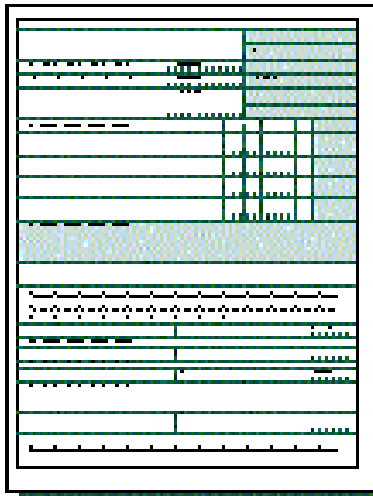




Hazardous Waste

- Uniform Hazardous Waste Manifest

- Used to track HW from generation to disposal
- Must accompany all HW shipments
- The manifest contains the following:



The image shows a thumbnail of a Uniform Hazardous Waste Manifest form. It is a complex document with multiple sections, including fields for generator information, transporter information, and waste characteristics. The form is divided into several horizontal and vertical sections, with some areas containing text and others containing tables or grids for data entry.

- Name, address and EPA ID Number
- Name and EPA ID Number of TSDF
- Name and EPA ID Number of the transporter
- Types and quantities of waste being transported



Hazardous Waste

- Recordkeeping and Reporting

- Biennial Report

- Required for LQGs

- Manifest Exception Report

- Required for LQGs when TSDF fail to provide a signed manifest within 35 days of HW being accepted by initial transporter
 - Required for SQGs when TSDF fail to provide a signed manifest within 60 days of HW being accepted by initial transporter

- Schedule for Keeping Records

- At least 3 years (States may require longer)





Used Oil

- Regulatory Background
 - EPA established used oil management standards in 40 CFR 279 to encourage recycling of used oil.
 - These regulations establish specific storage, tracking, and handling requirements for used oil that is recycled in any manner.
 - Can be “State specific”.





Used Oil

- Other examples of used oil managed under the management standards in 40 CFR 279 include:
 - Mixtures of used oil with fuels or other fuel products. However, if the used oil is mixed onsite with diesel fuel for use in your own vehicles, it is *not* subject to used oil regulations once it is mixed.
 - Materials containing or otherwise contaminated with used oil that are burned for energy recovery.



Used Oil

- Used oil produced on vessels during normal operations once it is transported ashore. If you accept used oil from a vessel, you are a co-generator of the used oil, and both you and the vessel's owner or operator are responsible for properly managing the waste.
- Wastewater that contains *de minimis* quantities (for example, from small leaks, spills, or drippings) of used oil are exempt from these standards.



Used Oil

- You will be required to manage your used oil as a hazardous waste if:
 - It exhibits a hazardous waste characteristic and is destined for disposal (instead of recycling).
 - It is intentionally mixed with hazardous waste (for example, mixed with solvents).
 - It contains more than 1,000 ppm total halogens (chlorinated compounds).



HAZWOPER Training

- The training must be based on the duties and function to be performed by each responder:
 - First responder awareness level
 - First responder operations level
 - Hazardous materials technician
 - Hazardous materials specialist
 - On-scene incident commander
- Training curriculum guidelines are provided in Appendix E to 29 CFR 1910.120.



Emergency Response Plan Training

- Should be based on the Training Reference for Oil Spill Response manual.
- Your drill/exercise program should also follow the National Preparedness for Response Exercise Program (PREP).



SPCC Plan Training

- Annual training should include:
 - Applicable pollution control regulations
 - Contents of the SPCC Plan
 - General facility operations
 - Operations and maintenance (O&M) of equipment to prevent release
 - Spill management procedures and emergency response techniques



Stormwater Pollution Prevention Plan Training

- At a minimum, the training must take place annually, and must address the following items applicable to your facility:
 - Used oil management
 - Spent solvent management
 - Spill prevention, response and control
 - Fueling procedures
 - General good housekeeping practices
 - Proper painting procedures
 - Used battery management



Hazardous Materials Transportation Training

Training should include:

- General awareness -- to enable employees to recognize and identify HM.
- Job Specific Training.
- Safety -- including emergency response information, measures to protect employees from the hazards associated with exposure to HM.
- Security Concerns and Issues

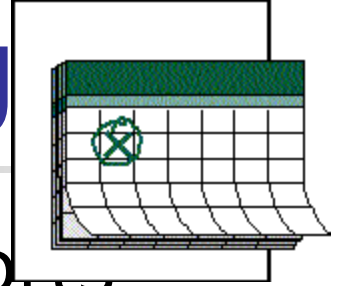




Routine Environmental Compliance Reporting

- EPCRA Reporting
 - MSDSs - Initial report plus revised data within 3 months when new chemicals/thresholds are involved
 - Tier II Report - 1 March annually
 - TRI Form R Reports - 1 July annually
 - Notification of Release - Immediately, whenever you release a reportable quantity in a 24hr period and the release travels beyond the boundaries of your property
 - Maintain reports, calculations, inspection, repairs and maintenance logs for 2, 3 or 5 years depending on the regulatory requirement

Routine Environmental Compliance Reporting

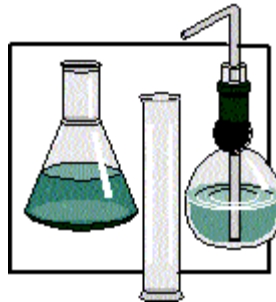


- Hazardous Waste Generator Reports
 - LQGs must submit their biennial report by 1 March of even numbered years
 - Some states require SQGs to submit annual reports
 - Reports should be maintained 3 years



Routine Environmental Compliance Reporting

- Wastewater and Storm Water Monitoring Reports
 - Discharge Monitoring Reports vary on a case by case basis
 - Storm water reporting varies by industry and location



Routine Environmental Compliance Reporting

- Annual Emissions Inventory Reporting varies by

state but normally includes emissions from:

- All fuel storage tanks
- Vapor control systems and flares
- Normal leakage from valves, pump seals, etc.
- Transport vehicle loading and unloading
- Spills
- Small sources exempt from permitting

